CLAIM AMENDMENTS

1. (Previously Presented) A capacitive position sensor configured for interconnection to a utilization device, comprising:

a stationary signal-detecting capacitor plate;

a stationary signal-transmitting capacitor plate supported parallel to, and spaced apart from, the signal-detecting capacitor plate, the transmitting capacitor plate being divided into a plurality of electrically separated segments;

a non-circular, movable dielectric element disposed between the signal detecting and signal-transmitting capacitor plates;

an elongate member having a user-manipulable proximal end and a distal end coupled to the dielectric element, the member being operative to rotate and laterally shift the element in the x or y directions in a plane substantially parallel to the stationary plates as a function of user position;

circuitry in electrical communication with the stationary plates, the circuitry being operative to (a) measure the capacitance between each segment of the signal-transmitting plate and the signal-detecting plate, (b) determine the position of the elongate member in the x and y directions as a function of the measured capacitance, and (c) determine rotation of the elongate member as a function of the measured capacitance, with or without lateral shifting of the dielectric element; and

an output for communicating the x-y position and rotation to the utilization device.

2. (Original) The position sensor according to claim 1, wherein the utilization device is a computer.

3. (Original) The position sensor according to claim 1, wherein the elongate member is a user-graspable joystick.

4. - 5. (Canceled)

6. (Original) The position sensor according to claim 1, wherein the segments of the signal-

transmitting plate are arcuate.

7. - 10. (Canceled)

11. (Currently Amended) A capacitive-based joystick configured for interconnection to a utilization device, comprising:

a housing having a top surface;

a stationary signal-detecting capacitor plate disposed within the housing;

a stationary signal-transmitting capacitor plate disposed within the housing parallel to, and spaced apart from, the signal-detecting capacitor plate, the transmitting capacitor plate being divided into a plurality of electrically separated segments;

a non-circular, movable dielectric element disposed within the housing between the signal-detecting and signal-transmitting capacitor plates;

a joystick lever supported for pivotal movement having a proximal end for user engagement and a distal end loosely coupled to the dielectric element, enabling the lever to rotate and laterally shift the dielectric element in x and y directions in a plane substantially parallel to the stationary plates as a function of user position;

circuitry in electrical communication with the stationary plates, the circuitry being operative to (a) measure the capacitance between each segment of the signal-transmitting plate and the signal-detecting plate, (b) determine the position of the ~~elongate member~~ joystick lever in the x and y directions as a function of the measured capacitance, and (c) determine rotation of the ~~elongate member~~ joystick lever as a function of the measured capacitance, with or without lateral shifting of the dielectric element; and

an output for communicating the user position to the utilization device.

12. (Original) The joystick according to claim 11, wherein the utilization device is a computer.

13. - 14. (Canceled)

15. (Original) The joystick according to claim 11, wherein the segments of the signal-transmitting plate are arcuate.

16. (Original) The joystick according to claim 11, wherein the plurality of electrically separated segment includes 3 or 4 arcuate segments.

17. (Canceled)

18. (Previously Presented) The position sensor according to claim 1, wherein the dielectric element is oval or egg-shaped.

19. (Previously Presented) The position sensor according to claim 1, wherein the plurality of electrically separated segment includes 3 or 4 arcuate segments.

20. (Canceled)

21. (Previously Presented) The position sensor according to claim 1, wherein:

the elongate member includes a pivoting coupling between the first and second ends of the elongate member; and

the distal end of the elongate member is loosely coupled to the dielectric element so that the dielectric element remains in a plane substantially parallel to the stationary plates as the dielectric element is rotated or laterally shifted.

22. (Previously Presented) The position sensor according to claim 1, wherein:

the movement of dielectric element is constrained by the spacing of stationary plates so that the dielectric element remains in a plane substantially parallel to the stationary plates as the dielectric element is rotated or laterally shifted.

23. –26. (Canceled)

27. (Previously Presented) The capacitive position sensor according to claim 1, wherein the dielectric element has a periphery described by:

$$r(\theta) = r_0 + a_2\cos(2\theta) + a_3\cos(3\theta).$$

28. (Previously Presented) The joystick according to claim 11, wherein the dielectric element has a periphery described by:

$$r(\theta) = r_0 + a_2\cos(2\theta) + a_3\cos(3\theta).$$

29. – 35. (Canceled)

36. (Previously Presented) The position sensor according to claim 1, wherein the segments of the signal-transmitting plate are arcuate.